

ABSTRACT

Methods of forming and assemblies having hybrid interconnection grid arrays composed of a homogenous mixture of Pb-free solder joints and Pb-containing solder paste on corresponding sites of a printed board. The aligned Pb-free solder joints and Pb-containing solders are heated to a temperature above a melting point of the Pb-free solder joint for a sufficient time to allow complete melting of both the Pb-free solder joints and Pb-containing solder paste and the homogenous mixing thereof during assembly. These molten materials mix together such that the Pb from the Pb-containing solder disperses throughout substantially the entire Pb-free solder joint for complete homogenization of the molten materials to form the homogenous hybrid interconnect structures of the invention.